COMPRION

Prove 2 and CLT One

SOLUTION FOR COMBINED CLF TESTING

The Contactless Front-end (CLF) plays an important role in NFC scenarios. It controls the communication between the UICC as possible secure element and contactless terminals, Smart Cards or RFID tags. Therefore, it is useful to test the CLF synchronously from the contactless and contact-based side.

For this reason, we offer a combination of two simulation devices, each of them designed for testing the respective interface. While the CLT One is simulating the contactless ISO/IEC 14443 and proprietary protocol communication, Prove 2 is simulating the SWP/HCI part of the communication.

Use cases:
- Development of CLF units in NFC terminals
- Interoperability testing/monitoring between different NFC devices
- NFC application development within mobiles, banking-, government- and ID systems

Benefits
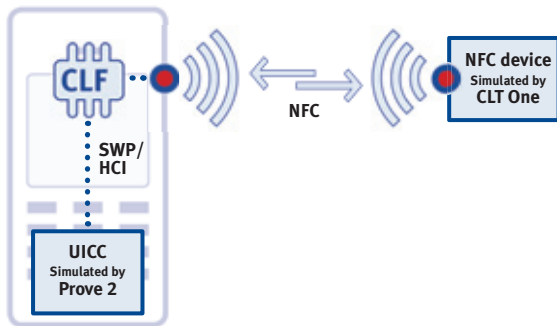
Simulating and tracing the complete NFC communication chain

COMPRION's new CLF test solution allows synchronous simulation of the contact-based and contactless NFC communication. Moreover, Prove 2 and CLT One can be used as spy tools to synchronously trace the ISO/IEC 7816, SWP/HCI, IC-USB protocols as well as the contactless communication part. With the combination of the two test devices, COMPRION provides the whole picture of data exchanged between the UICC, the CLF and the contactless device.

Two devices - only one GUI

In the combined test scenario, Prove 2 is working as the control unit for the execution of test cases. As a consequence, SWP signals and ISO/IEC 14443 interface signals are recorded in one single file with the same time base. The signals are processed according to protocol rules, analysed and compared to conformance requirements. The results of both test devices are shown jointly in the GUI of Prove 2.

Available test cases

COMPRION offers test case packages according to:
- ETSI TS 102 694-1 (SWP)
- ETSI TS 102 695-1 (HCI)
- ETSI TS 102 695-3 (HCI)

These test benches also include combined tests. Additionally, they support the CLF's compliancy verification of SWP/HCI layers, containing nominal behaviour and incorrect parameter test cases. Hence, they cover such SWP/HCI features as low-level HCI transport, link management gate, administration gate, ACT frames, link establishment and data flow.

Writing of own test scenarios

Besides using the commercially available test case packages, users can also set up self-defined scripts and induce protocol errors, making our tools perfect companions for development testing.

Integrated digital storage oscilloscope

Both, CLT One and Prove 2, feature an integrated digital storage oscilloscope for exact measurement and analysis. Thus, the analogue signal behaviour is not influenced by additional parasitic effects caused by the connection of external measurement equipment. In case of logical errors, a multilevel and complex trigger logic enables signal recording to enhance the user's abilities for analysing and resolving these errors.

Test setup for testing the CLF from the contact-based and contactless side

For technical details and features of CLT One and Prove 2, please refer to the respective product brochures.